

Claims

What is claimed is:

1. VACUUM FEEDER system comprising a transfer device for flaccid materials (1) or pieces from a transport means to another transport means or a weighing system characterized by
the materials or pieces being delivered to said transfer device,
- 10 the transfer device comprising a rotating cylinder (5) body having holes (9) on the cylindrical surface, said holes (9) being connected to a vacuum pump through vacuum connection means, and
wherein said materials or pieces are delivered one by one to said another transport means or a weighing system.
- 15 2. VACUUM FEEDER system according to claim 1, characterized by said materials being delivered to said transfer device in an unorderly form.
- 20 3. VACUUM FEEDER system according to claim 1, characterized by said materials being delivered to said transfer device in accumulated form, e.g. accumulated next to the cylindrical surface.
- 25 4. VACUUM FEEDER system according to claim 1, characterized by said vacuum connection means (10) being coupled through flanges (12, 14).
5. VACUUM FEEDER system according to claim 1, characterized by said vacuum connection means (10) having a vacuum distribution chamber (15).

6. VACUUM FEEDER system according to claim 1, characterized by said vacuum connection means (10) being connected to a tube (17) external to said cylinder (5).
7. VACUUM FEEDER system according to claim 1, characterized by said vacuum connection (10) means comprising means that are placed inside said cylinder (5).
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8. VACUUM FEEDER system according to claim 7, characterized by that said vacuum connection means (10) being placed inside said cylinder (5) comprises a plurality of vacuum communication means.
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9. VACUUM FEEDER system according to claim 7, characterized by that said vacuum connection means being placed inside said cylinder (5) comprises a bundle of tubes (10).
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10. VACUUM FEEDER system according to claim 1, characterized by said materials being delivered at a level above the lower level of said cylinder (5).
11. VACUUM FEEDER system according to claim 1, characterized by said materials being delivered at a level below the lower level of said cylinder (5).
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12. VACUUM FEEDER system according to claim 1, characterized by said materials being delivered one by one to said another transport means or a weighing system placed below said cylinder (5).
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13. VACUUM FEEDER system according to claim 1, characterized by vacuum connection means (10) being connected to the cylinder(5) body, said vacuum connection means (10) connecting each of the holes (9) on the cylindrical surface to each of a plurality of holes (11), at least some of which are arranged in a circle on one of the sides corresponding to one of the cylinder (5) bases.
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14. VACUUM FEEDER system according to claim 1, characterized by a flange (12) facing the cylinder (5) base having a passage arranged in an arc of circle form having a radius substantially equal to the radius of the circle on which at least some of the holes(11) are placed on said cylinder (5) base.

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15. VACUUM FEEDER system according to claim 14, characterized by having a flange (14) that overlaps a flange (12) facing the cylinder (5) base and said flange(14) having a vacuum distribution chamber (15) lined up with said passage in the flange (12) facing the cylinder (5) base.

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16. VACUUM FEEDER system according to claim 1, characterized by each hole (9) on the cylindrical surface having a socket (20) in a form of an oval nozzle resulting from an inclined cut at the end of the cylinder body that forms the socket.

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17. VACUUM FEEDER system according to claim 1, characterized by each hole (9) on the cylindrical surface having a socket (21) in a form of a circular nozzle formed by a normal cross-section of the cylinder body that forms the socket.

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18. VACUUM FEEDER system according to claim 1, characterized by each hole (9) on the cylindrical surface having a socket (22) in a form of a hollow truncated cone nozzle formed by bevelling the normal cross-section of the straight end of the cylinder body that forms the socket.

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19. VACUUM FEEDER system according to claim 1, characterized by each hole (9) on the cylindrical surface having a socket (23) in a form of a circular nozzle formed by a ring type cylindrical boss (23) on the top of the cylinder body that forms the socket.

20. VACUUM FEEDER system according to claim 1, characterized by each hole (9) on the cylindrical surface having a socket (24) in a form of a rectangular nozzle on the top end of the cylinder body that forms the socket.

5 21. VACUUM FEEDER system according to claim 1, wherein said rotatable surface is the surface of a cylinder placed at the transfer location with an axis placed essentially horizontally.

10 22. VACUUM FEEDER system according to claim 1, wherein said pieces may differ in size, shape, weight etc. from each other.

23. VACUUM FEEDER system according to claim 1, wherein pieces that are not caught by the rotating cylinder (5) body can continue to a discharge point (19) in order to be replaced on said transport means.

15 24. VACUUM FEEDER system according to claim 1, wherein said pieces that are delivered by said transfer device are being graded, e.g. for packing and storing.

20 25. Method of transferring items or pieces of flaccid materials, whereby
- said items are supplied via transport means such as a conveyor belt to a transfer location,
- said items are gripped from said transport means by suction means, said suction means being arranged in a rotatable cylindrical surface in such a manner that the items are gripped one by one,

25 - said items are transferred during rotation of said suction means to a release location, where suction is interrupted and the item is placed on a further transport means or a weighing system.

30 26. Method according to claim 25, whereby said items or pieces are being delivered to said transfer device in an unorderly form.

27. Method according to claim 25, whereby said items or pieces are being delivered to said transfer device in accumulated form.

5 28. Method according to claim 25, whereby said rotatable cylindrical surface is the surface of a cylinder placed at the transfer location with an axis placed essentially horizontally.

10 29. Method according to claim 25, whereby said items or pieces are supplied to said suction means at a level above the lower level for said rotatable cylindrical surface.

30. Method according to claim 25, whereby said items or pieces are supplied to said suction means at a level below the lower level for said rotatable cylindrical surface.

15 31. Method according to claim 25, whereby said further transport means or said weighing system is placed below said rotatable cylindrical surface and whereby said items or pieces are released one by one onto said further transport means or said weighing system.

20 32. Method according to claim 25, whereby said items or pieces that are supplied via transport means such as a conveyor belt to a transfer location, are accumulated at said location until gripped by said suction means.

25 33. Method according to claim 25, whereby said items or pieces may differ in size, shape, weight etc. from each other.

34. Method according to claim 25, whereby items or pieces that are not caught by said suction means can continue to a discharge point in order to be replaced on said transport means.

35. Method according to claim 25, whereby said items or pieces that are delivered by said transfer device are being graded, e.g. for packing and storing.